California Integrated Water Quality System (CIWQS)





Location of this Presentation:

http://www.waterboards.ca.gov/ciwqs/sessions.html



What is CIWQS?

The California Integrated Water Quality System (CIWQS) is a new computer system for the State and Regional Water Boards to:

- Track information about places of environmental interest,
- Manage permits and other orders,
- Track compliance inspections, and
- Manage violations and enforcement activities.



CIWQS Business Opportunity

The CIWQS promotes integration of protecting, enhancing and restoring water resources by the Water Boards' regulatory programs through compliance with policies, plans and permits. CIWQS promotes these actions by automating the following processes:

- Issuing permits;
- Assisting permittees with compliance;
- Scheduling inspections of facilities;
- Reviewing discharger self-monitoring reports;
- Investigating complaints;
- Taking enforcement action against violators; and
- Tracking results of compliance and enforcement.



CIWQS Objectives

- 1. Ability to meet core water quality mission
- 2. Better manage workload
- 3. Automate Discharger Self-monitoring Report review process
- 4. Improve the impact on public health and safety and the State's economy
- 5. Improve the effectiveness of enforcement and compliance processes to meet statutory mandates
- 6. Improve the potential for future federal funding



CIWQS Regulatory Management









This is an example of the type of information that is tracked in CIWQS.

Smith River

Place 1

Industry

Plant



Place 4



Place 3

Treatment Plant



Mercury Water Quality Objective to support Beneficial Uses: 0.05 µg/L Boards

Tracking Regulatory Measures

Regulatory Measures include permits, waivers, and notices of violations.

Requirements, Inspections, and related Regulatory Measures, Parties, Places, and Violations are recorded in a Regulatory Measure record within CIWQS



Tracking Self Monitoring Reports (SMRs)

- The Water Boards rely on discharger SMRs to check permit compliance.
- CIWQS accepts submittal of SMRs via the Internet.
- Individual NPDES permit holders are the first dischargers required to use this system.
- Dischargers may submit data using a raw data entry screen or by uploading electronic files to the system.



Compliance Checking of Self Monitoring Report Data

Once data is submitted to CIWQS:

- CIWQS checks the data for compliance against permit requirements, runs the necessary calculations, and a determination is made as to the status of compliance.
- Water Board staff time spent conducting manual review of paper-based information is reduced significantly with the **automated compliance checking** feature of CIWQS.
- **Reporting tools** can be utilized to further analyze data to identify and track trends over time.



Spatial Representation of Water Quality Data





An Integrated Approach



CIWQS GeoWBS Module

The geospatial waterbody (GeoWBS) module of CIWQS supports:

- Maintenance of the list of monitored and assessed waters,
- Their spatial representations as GIS features,
- Long-term management of water quality information about those waters, and
- Provides the tools needed for efficient, multi-program access to these data.



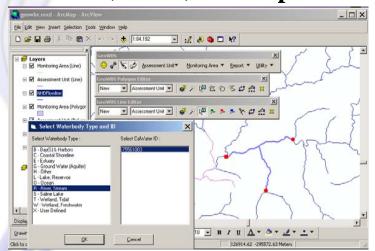
Why a New GeoWBS?

- House in CIWQS-OIT
- •Upgrade GIS software
- Provide linear referencing
- Provide online and web-based systems
- •Upgrade 303d/305b reporting to USEPA requirements
- •Integrate 303d supporting and 305b assessment info.

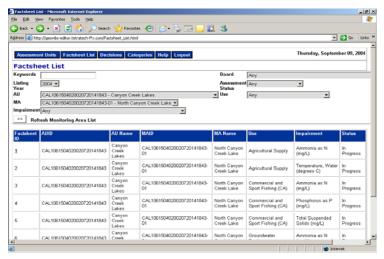


Components of GeoWBS

GeoWBS (ArcGIS) Desktop Editor



GeoWBS Online Editor



GeoWBS Web-Based Navigator





GeoWBS Workflow

• Desktop Editor - - - - - GIS Mapping

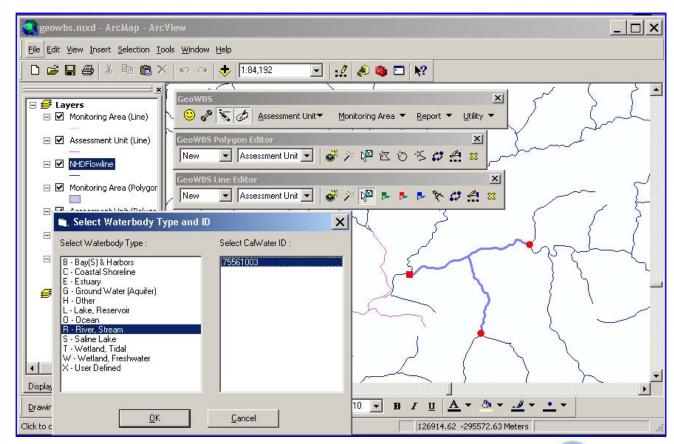
• Online Editor - - - - Assessment Data Entry 303d/305b

• GeoWBS Navigator - - View Data on Browser



Functions of GeoWBS ArcGIS Desktop Editor

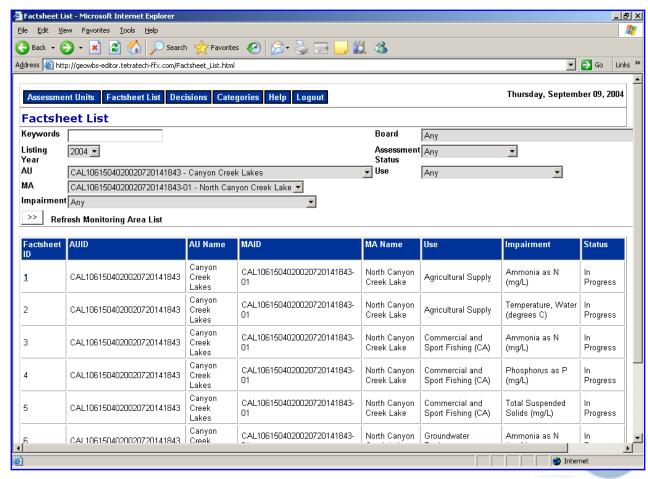
- Maps assessed waters
- •Collects location information
- Assigns beneficial uses





Functions of GeoWBS Online Editor

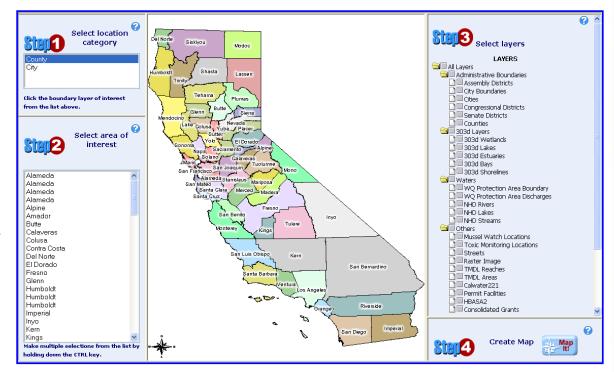
- •Rate beneficial uses
- •Records Impairments
- •Records Sources
- •Records Listing Decisions





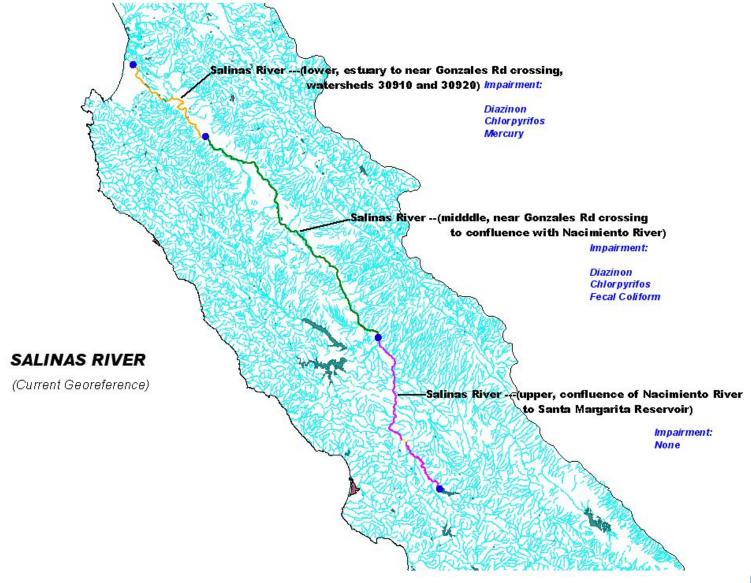
Functions of GeoWBS ArcGIS Navigator

- •Browser with GIS functions
- •Display water quality GIS layers
- •Query GIS data and create reports
 - a. Show grant projects in watershed.
 - b. View supporting info factsheets for 303d listed waters

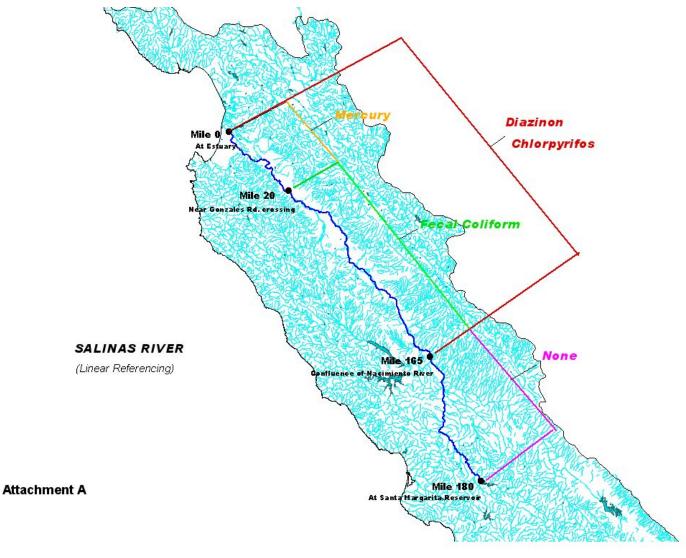




Historical Method of Mapping



New Mapping in CIWQS GeoWBS





305b/303d Primary Data Collected in CIWQS GeoWBS

Primary Data

Assessed water name

Assessed water size, type

Location information

Beneficial uses

Data used for Assessment

Beneficial use support rating

Impairment

Sources of impairment

303(d) list the impairment?

TMDL expected completion

Examples

Salinas River

bay, river, wetland

region, county, watershed

recreation, aq life, drinking

chemical, pathogen data

not supporting, supporting

mercury, fecal coliform

mining, urban runoff

do not list, delist

2019



GeoWBS Phase II - Next Steps

- Migrate existing GIS and tabular 305(b) and 303(d) assessment data
- Complete or add more functionality to enable integration with other CIWQS modules data
- Improve:
 - User interface design and tools.
 - Stability and performance of all GeoWBS applications.
 - Number, content, and functionality of reports as per State and Regional Water Board staff needs.
- Make navigator internet accessible

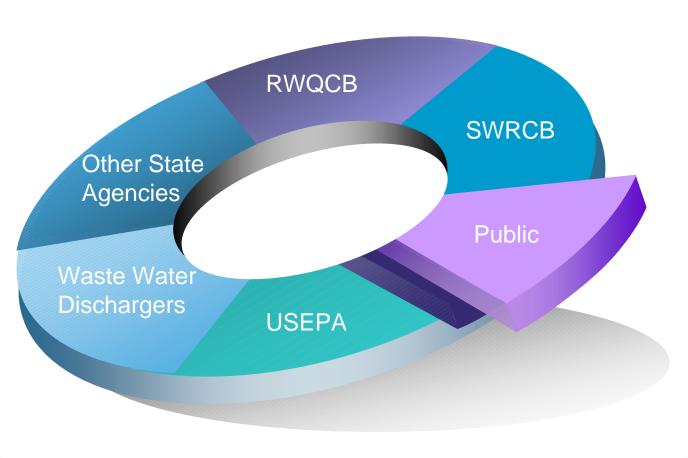


CIWQS Outreach and Support





CIWQS Customers





Discharger Roll-out Plan

Optimize

Announce

Adopt

Refine permit writing processDefine business rules in design

document

- •CIWQS News
 •Outreach sessions
- E-mail list server
- •E-mail support
 - Website
 - Help Center
- •866-79-CIWQS

- Over 700 members on CIWQS list server
- •75% attendance at outreach sessions



NPDES Dischargers Electronic Submission

Region 7	<u>Permits</u>	Trained	Submitted Report			
	26	12	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
			7	5	4	2
		46%	27%	19%	15%	8%
Region 8	<u>Permits</u>	<u>Trained</u>	Submitted Report			
	39	14	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
			4	1	0	0
		36%	10%	3%	0%	0%
Statewide Grand totals:	~600	26	11	6	4	2
Statewide Statia totale.	14000	4%	2%	1%	1%	0%



Regional Boards Data Entry Phased Approach

Phase 1 - Start with centralized data entry

Phase 2 - Train RB staff on use of each CIWQS module

Phase 3 - Release module by module to RB staff for direct data entry in CIWQS

Phase 4 - Outreach/training to each RB to ensure high quality data entry in CIWQS

NPDES Data Submission to PCS

Phase	Data Submission Types	Testing Start Date	Production Date
1	Permit Facility, Permit Tracking, and Single Event Violation data flows	March 1, 2005	Dec.21, 2005 (completed)
2	Enforcement Actions, Enforcement Action Violation keys for Single Event Violations, Inspections, Compliance Schedule, Compliance Schedule Violation	Jan. 1, 2006	March 31, 2006
3	Pipe Schedule, Parameter Limits, Measurement Violation, Reissuance, Enforcement Actions and Enforcement Action Violations for Measurement Violations	March 31, 2006	December 31,2006



CIWQS New Modules

- Geotracker Data Flow to CIWQS Jan. 1, 2006
- Storm Water Notice of Intent Jan. 20, 2006
- Sanitary Sewer Overflow April 10, 2006
- Storm Water Annual Report June 1, 2006
- Ambient Surface and Ground Water (SWAMP/GAMA) Sept. 1, 2006
- NPDES Permit Standardization Tool Dec. 31, 2006
- NPDES Automated Inspection Tool Dec. 31, 2006



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